

churchillnorthernstudiescentre



elderhostel wards PAGE 6

THE BIRDFISH

WINTER 09

Churchill Northern Studies Centre
Newsletter

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DESIGNING

the New Churchill Northern Studies Centre

In the last edition of the *Birdfish*, we announced exciting plans for the re-development of the Churchill Northern Studies

Centre. The Centre is currently housed in what used to be the operations building of Churchill Research (Rocket) Range, a site of national historic significance. Built more than forty years ago, the



Photo: Canadian Space Agency



Photo: CNSC

building requires significant upgrades in order to meet both the current and projected demand for research and education services in the Churchill region. The new CNSC will include approximately 30,000 sq. ft. of new construction immediately to the east (right) of the Centre and extensive renovations to the existing building. As part of our continuing coverage of this exciting project, we'll briefly introduce you to the team responsible for designing the new CNSC and even how you can participate in the design process.

Design Team Takes Shape

The new CNSC is being designed by Prairie Architects of Winnipeg and built by Penn-Co. Construction of Blumenort, Manitoba. The design process is guided by a building implementation committee comprised of CNSC staff, board members, and clients. Overall project management is the responsibility of Integrated Designs Inc. (see *Birdfish* Summer 2008). As part of the integrated design process (IDP), both the architect and general contractor were selected early in the project. Penn-Co. will be an integral part of the design team, helping to reduce costs and identify problems before they become problems. In the weeks and months ahead, a variety of additional firms specializing in heating, mechanical, and structural engineering will also join the team. Other design professionals will assist with the specific requirements of new laboratory and kitchen facilities.

The first meeting of the integrated design team took place at the Centre last December. For some, it was an opportunity to see the Centre first-hand and gain a better understanding of how it operates – especially critical given the diverse range of activities the Centre undertakes. For others, it was a chance to re-acquaint themselves with the operation of the facility outside of the summer season. One of the major outcomes of the meeting was the project charter. The project charter is a straightforward document that outlines the broad goals and aspirations of the project. For example, the new CNSC should not only be energy efficient, it should also serve as a showcase of green building technologies applied in Canada's North. Team members also began to tackle more complex issues such as which functions will remain in the existing facility and which will be transferred to the new building.

Form and Function

The initial stages of the design process aim to answer fundamental questions about the building's form and function. How much space is required for various functions: should the cafeteria be able to seat everyone in just one sitting? What types of research are anticipated to occur over the next five, ten or twenty-five years? Which amenities would guests prefer: a fireplace or a fitness centre? Even something as simple as the shape of the new building is critically important. Although one can easily imagine an endless number of designs, only certain shapes will be appropriate to the high winds and snow drifting routinely encountered at the edge of the Arctic.

In order to begin conceptualizing the new building, Prairie Architects and Integrated Designs have prepared an online survey. Through this survey, the design team will gain a deeper understanding of not only the technical requirements of the building program, but also what our staff and visitors would like to see in a new facility. Members of the building committee, current and past staff, research clients, and educational instructors have already had an opportunity to complete the survey. Results so far have been quite interesting. In some areas there was general agreement among participants, while in others no clear consensus emerged. This is not at all surprising given the diverse interests and backgrounds of our many clients. ●

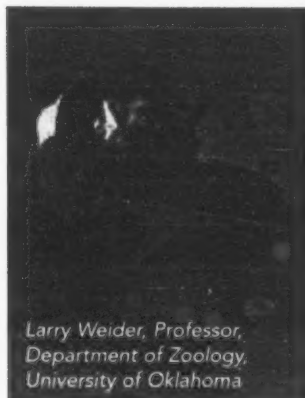
Well, now it's your turn!

We invite readers of the *Birdfish* to participate in the design of the new Churchill Northern Studies Centre by completing our online survey. Simply visit our website at www.churchillscience.ca and follow the links. The survey should take between 30 – 60 minutes (depending on your familiarity with the facility) and will be active for the next several weeks.



Genes, Water Fleas, & Climate Change:

A quarter-century retrospective study

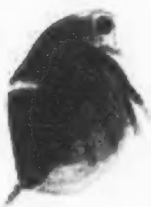


Larry Weider, Professor,
Department of Zoology,
University of Oklahoma

My first trip to Churchill was in the summer of 1984 as a post-doctoral fellow in the laboratory of Dr. Paul D. N. Hebert (Univ. of Windsor). It was my first experience in the arctic/sub-arctic and it paved the way for a return trip to Churchill in the summer of 1985. In those early years, we were based at the NRC "launch" (prior to the CNSC – moving to the present location), which made it very convenient for our genetic research on the

water fleas (*Daphnia*) inhabiting the rock pools and tundra ponds in the Bird Cove and Halfway Point area.

There would be a 21-year hiatus before I would return to Churchill in the summer of 2006 as a Professor at the University of Oklahoma to link up with my



long-time friend and colleague, Dr. Paul D.N. Hebert (currently at the Univ. of Guelph) and begin a retrospective study of the changes that have occurred in the composition of the organisms that inhabit the rock pools at Churchill.

In those intervening two decades, I would make 7 other trips/expeditions to the arctic, including eastern arctic Canada (Igloolik, Baffin Island), Greenland, Iceland, Svalbard, and a joint Swedish-Canadian expedition that traversed the entire Northwest Passage in the summer of 1999.

By comparing our results from the early-mid 1980's with our recent findings from 2006-2008, our work over the intervening nearly quarter-century has shown that indeed shifts in the composition of the rock pool invertebrate communities, in particular within the water flea species complex, *Daphnia pulex* has occurred. Approximately 30% of the rock pools no longer contain a pigmented (i.e. melanic) form of

D. pulex. In addition, roughly 40% of the rock pools have seen some dramatic changes in the genetic structure of these *Daphnia* populations. Quite surprisingly, though, ~60% of the rock pools show nearly an identical genetic composition/structure.

So, what do these changes (or lack of changes) really mean? Our plans are to begin looking at the role of global climate change (i.e. temperature) and related effects (i.e. increased salinity in the rock pools due to a longer ice-free season on Hudson Bay) on the underlying species and genetic composition of these rock pool *Daphnia* communities. The small sizes and shallow depths of these rock pools mean that the organisms inhabiting them are closely impacted by changing climatic conditions.

My journey and love for the arctic began here in Churchill in 1984, and the hope is to continue this work into the future by utilizing the excellent facilities and support provided by the CNSC. ♦

• Larry Weider is also the Director of The University of Oklahoma Biological Station. Birdfish Editor, Michael Goodyear, wonders who'd be crazy enough to want to run a field station...oh, wait...



Photo: Larry Weider



CNSC LEARNING
VACATIONS

SUMMER NORTH OF 58°

Photo: Michael Goodyear

No matter what your interest - or your age - the Churchill Northern Studies Centre has a fun-filled and enriching educational experience for you. This summer, the CNSC is offering up four learning vacations and three Elderhostel programs. The only stressful part might be choosing which one! "The first step," says Executive Director, Michael Goodyear, "is to determine your particular interest in visiting Churchill." If you wish to witness the stunning spring bird migration, you'll need to book an early June getaway. Try our five-day *Birds, Blooms and Bergs Elderhostel*. For the serious birder, consider upgrading to the seven-day *Spring's Wings Learning Vacation*. The ultimate Manitoba birding experience, however, is *Ptarmigan to Pelicans*. This ten-day program spans the full extent of Manitoba, from prairie grasslands to subarctic tundra, and is a great way to boost your life list. For the botanically inclined, you couldn't possibly go wrong with *Into the Wildflowers Learning Vacation* with Dr. Karen Johnson. Karen literally 'wrote the book' on Churchill plant life with her perennial classic *Wildflowers of*

Churchill. One of Churchill's best kept secrets is the abundant and highly vocal beluga whale. These 'sea canaries' gather by the thousands in the Churchill River each summer to feed, nurse their young, and moult their skin. For an unparalleled whale watching experience sign-up for either the *Belugas in the Bay Learning Vacation* or *Beluga Whales and Wildflowers Elderhostel*. By now you're saying to yourself, "I want to see it all!" No problem, *Wild Planet Learning Vacation* is a perfect family vacation with a little bit of everything - birds, whales, late-summer wildflowers and maybe even a polar bear or two.

Each non-credit course is led by a scientific expert or knowledgeable guide. Evening lectures, guest speakers and visits to local museums and interpretive sites complete these educational courses. And, of course, the CNSC is an active research field station where you can interact directly with visiting scientists from around the world. *

Call us today at (204) 675-2307 to register for your summer adventure. Marie is waiting to take your call.

Que penseriez-vous de vivre une expérience nordique unique au cours de laquelle vous seriez témoin du passage des grandes migrations printanières d'oiseaux, de l'arrivée de milliers de baleines bélugas dans la Rivière Churchill, ou encore de la toundra en pleine floraison estivale avec des couleurs à couper le souffle?

C'est ce que vous offre le Churchill Northern Studies Centre à travers des programmes éducatifs conçus pour vous donner une chance exceptionnelle de visiter la région subarctique de

Churchill. Nos programmes vous informeront sur la faune, l'écologie, la culture, ainsi que l'héritage historique de la région à travers des présentations données par des experts en la matière. Malgré le fait que tous nos programmes se donnent en anglais, notre Coordinatrice peut toujours vous aider en français avant, pendant et après l'aventure de votre choix. Après tout, nul besoin d'être bilingue pour entendre les bélugas chanter tout en admirant des paysages nordiques! *

Pour de plus amples informations, appelez Marie au (204) 675-2307, ou envoyez-lui un courriel à cnscc@churchillsience.ca.



featuredcourses

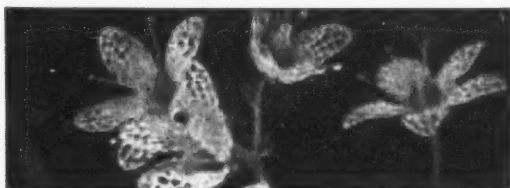
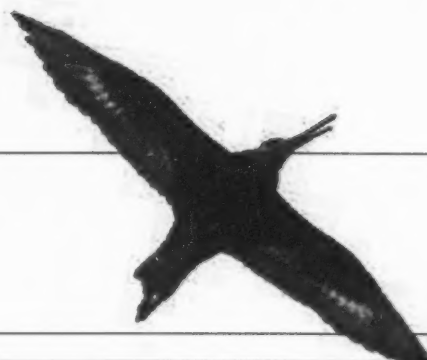
SPRING'S WINGS

Birding in Churchill

June 4 – 11, 2009

Instructor: Rudolf Koes

\$935 CDN



INTO THE WILDFLOWERS

Flora of the Subarctic

July 11 – 16, 2009

Instructor: Karen Johnson

\$935 CDN

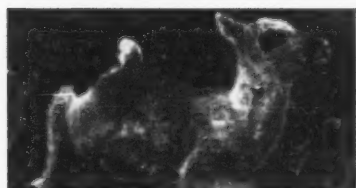
BELUGAS IN THE BAY

Biology of the Beluga Whale

July 25 – 30, 2009

Instructor: TBA

\$1100 CDN



WILD PLANET

Ecology of the Subarctic

August 15 – 20, 2009

Instructor: Michael Goodyear

\$1250 CDN



Elderhostel

Churchill and Southern Manitoba

PTARMIGAN TO PELICANS

June 3 – 12, 2009

Instructor: Bob Alison

\$3148 CDN

(Combined southern Manitoba and Churchill program)

Arctic Spring

BIRDS, BLOOMS AND BERGS

June 13 – 18, 2009

Instructor: Bob Alison

\$1080 CDN

An Arctic Summer

BELUGA WHALES AND WILDFLOWERS

June 27 – July 2, 2009

Instructor: TBA

\$1094 CDN

BOOK TODAY!

For more information on these and other exciting course offerings at the Churchill Northern Studies Centre, please visit www.churchillscience.ca and download our course brochure today! Well, what are you waiting for? ☛

Word Play

By Carley Basler

Wading in the water
Ankle deep in loon sludge
Trip to Twin Lakes
Eaten alive by mosquitoes
Remember to write your
name on the white board

Science!
Always watching for bears
Make sure to rinse three times
Please don't drop the expensive equipment
Lab work
In for lunch
No vehicle for science today
Grab sample and go



ELDERHOSTEL LONG-SERVICE AWARDS

What's the secret to a top-notch educational experience? For the thousands of Birdfish readers who have taken part in Elderhostel programs at the Churchill Northern Studies Centre, it's no secret at all – our instructors!

This past summer, CNSC Executive Director, Michael Goodyear, had the privilege of recognizing five talented individuals for their long-standing contribution to educational programming at the CNSC. Each is an accomplished scientist

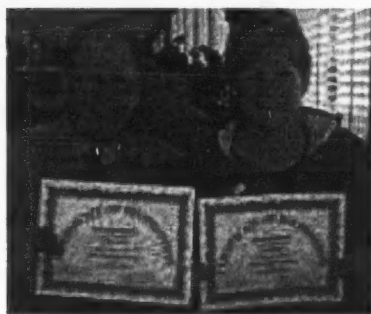
with five or more years experience leading one of our many Elderhostel non-credit course programs. Recipients were each presented with a commemorative long-service pin and certificate signed by Elderhostel CEO, Mr. James Moses.

ROGER "Starman" WOLOSHYN (20 Years)



Simply put, Starman is an educator with a passion for the night sky. For two decades, he has shared his knowledge of the aurora borealis and observational astronomy with visitors to the CNSC. In fact, by the time you read this, Roger will be back in Churchill leading our *Winter Skies: Aurora and Astronomy Learning Vacation*. A Distinguished Toast Master, Roger is often seen careening down the halls of the CNSC at 2 a.m. yelling, "It's show time!"

JACK DUBOIS and KIM MONSON (10 Years)



This dynamic duo led our *Beluga Whales and Wildflowers* program for many years. To simply describe Kim as a plant ecologist and Jack as a wildlife biologist would only scratch the surface of their vast knowledge of the Hudson Bay Lowlands. Over the years, their many

research campaigns have made a valuable contribution to the establishment and management of Wapusk National Park and surrounding areas. Both are currently pursuing other projects, but we hope that retirement will soon bring them back to the shores of historic Hudson Bay.

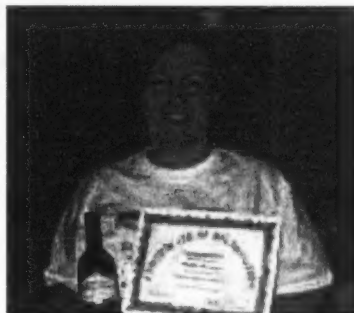
BOB ALISON (15 Years)



Bob (left) first visited Churchill over forty years ago as a young graduate student studying the ecology of the long-tailed duck. He's been coming back ever since. For the better part of two decades Bob has shared his

knowledge and passion for the birdlife of Churchill with hundreds of wide-eyed, spotting scope-toting amateur naturalists. Bob is well positioned to describe the long-term changes in the climate and distribution of birdlife in the spring. Bob will be leading our *Birds, Blooms and Bergs* Elderhostel (see page 5) **June 13 – 18, 2009.**

HEATHER MACLEOD (5 Years)



In her role as Program Coordinator and, most recently, Volunteer Coordinator, Heather has made an invaluable contribution to the success of all our Elderhostel programs. Whether it was leading the way or toiling behind the scenes, Heather left her unique mark on the CNSC.

Originator of the infamous "Snow Day Café", Heather firmly believes that nothing can smooth over a situation better than a stiff cup of hot chocolate and a "wee dram". ☼

OUR VOLUNTEERS



The Birdfish is pleased to announce the birth of Jude Owen Wetters. Best born August 8, 2008 to CNSC volunteer Brent Wetters and his wife Carrie Best. Brent helps keep the CNSC website up and running. We suspect Jude keeps Brent up and running, too.

Rosalind's Kitchen

Lemon Squares

By Rosalind Ellsworth

- 2 cup flour
- 2 cup coconut
- 1 teaspoon baking powder
- 3/4 cup sugar
- 3/4 cup butter
- 1 can E. D. Smith lemon pie filling

- Mix dry ingredients together.
- Cut in butter to make a crumbly mixture.
- Grease 9" X 11" pan and put 1/2 of crumb mixture into bottom; pat gently.
- Spoon on lemon pie filling and top loosely with remaining crumbs.
- Bake at 350 °F until browned; about 30-45 minutes.

• Birdfish is pleased to announce that Rosalind Ellsworth, along with her husband Robert, will be returning to the CNSC kitchen again this spring. Thank goodness - we've almost lost the 20 extra pounds they put on us last summer!

In Memoriam

It is with deep sadness that we note the passing of Shelly Stetson of Duluth, MN, following a courageous battle with cancer. Shelly, her husband John, and son Nelson would visit Churchill each fall with their dogs, introducing thousands of visitors to the art and joy of dog mushing. We don't always know where the trail leads us, but we're glad to have joined Shelly for part of the ride.



Established in 1976, the Churchill Northern Studies Centre is an independent, non-profit research station located along the western coast of Hudson's Bay.

BOARD OF DIRECTORS:

Peter Kershaw (Chair) - Member-at-Large
 Mario Tenuta (Vice-Chair) - Users' Representative
 Heather Boychuk (Treasurer) - Member-at-Large
 Rick Bello (Secretary) - Member-at-Large
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 Penny Rawlings - Churchill Chamber of Commerce
 Mike Iwanowsky - Town of Churchill
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 Dave Hicks - Manitoba Aboriginal and Northern Affairs
 Roxanne Chan - 1st Alternate
 Lenore Johnson - 2nd Alternate

to understand and sustain the north

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 Fleet and Facilities Supervisor
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The CNSC is a registered Canadian charity in part supported by the Manitoba Department of Advanced Education and Literacy and the Natural Sciences and Engineering Research Council of Canada through a Major Resources Support Program.

The Birdfish Newsletter is produced by CNSC staff with assistance from researchers and program participants.

Latitude: 58° 44.16'N Longitude: 93° 49.09'W
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Churchill Northern Studies Centre Newsletter • WINTER 09

contribute

to the Churchill Northern Studies Centre Capital Campaign



churchillnorthernstudiescentre

This issue of The Birdfish is the first of many that will keep you abreast of the exciting changes and improvements planned for the Centre over the next few years. Now, more than ever, your contribution is needed to ensure this redevelopment meets all the expectations that YOU, our participants, researchers, and members, have for the future of the Centre. No contribution is too small. Every gift counts.

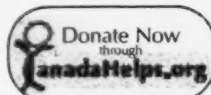
And it's so easy...

Clip this form and mail it with your cheque payable to: CNSC Capital Campaign, Churchill Northern Studies Centre, P.O. Box 610, Launch Road, Churchill, Manitoba, R0B 0E0;

Or visit our web site at www.churchillscience.ca and click on the big blue Donate button. This will take you to a secure site that exclusively handles donations to organizations like ours. Additional information about the security features is provided on the web page.

Or just give us a call at (204) 675-2307.

All donations will be recognized in campaign materials and annual reports unless you wish to remain anonymous. Tax receipts are provided for contributions \$25 or more. We welcome all US donations. Contributions \$250USD or more are tax deductible. Contact Kim at (204) 675-2307 or daley@churchillscience.ca for details.



CNSC Capital Campaign Contribution

Here is my support in the amount of \$ _____

☐ cheque or money order made payable to the CNSC Capital Campaign enclosed. (Thanks! This saves us credit card fees.)

☐ Visa ☐ MasterCard ☐ American Express

card number: _____

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join

the Churchill Northern Studies Centre Today!

We rely on our membership to provide the support and funding needed to make the CNSC a place for world class research and education programs in the Canadian subarctic. Join us now and be part of these exciting times at the CNSC. Already a member? Use this form to ensure your membership remains current and YOU stay abreast of Centre activities.

Name: _____ E-mail: _____ Tel: _____

Address: _____ City: _____ Province/State: _____ Postal/Zip Code: _____

In accordance with the Personal Information Protection and Electronic Documents Act, names, addresses or other personal information collected by Churchill Northern Studies Centre is used for internal purposes such as informational mailings, membership renewals and other communications, and is not shared with any third party. Complete details of our privacy policy are available by contacting the CNSC.

☐ NEW* membership ☐ RENEW* my membership

☐ Individual \$25 ☐ Student/Senior \$20 ☐ Family \$40 ☐ Corporate \$500

*One-year CNSC membership

☐ I would like to send a one-year gift membership to:

Name: _____ Address: _____ City: _____ Province/State: _____ Postal/Zip Code: _____

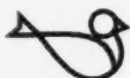
Telephone: _____ E-mail: _____

Message for gift card: _____

☐ I want to support CNSC. Here is my gift of \$ _____

Tax receipts are provided for Canadian donations of \$25 or more. Membership fees are not tax-deductible

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P.O. Box 610, Launch Road
Churchill, Manitoba
R0B 0E0 Canada
or call (204) 675-2307



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Total amount \$ _____

☐ cheque or money order payable to the CNSC enclosed. (Thanks! This saves us credit card fees.)

☐ Visa ☐ MasterCard ☐ American Express

card number: _____

expiration date (mm/yy): _____

name on card: _____

signature: _____

We appreciate your support of the Churchill Northern Studies Centre. Your donations support research and education that makes the world a better place. Thanks very much.